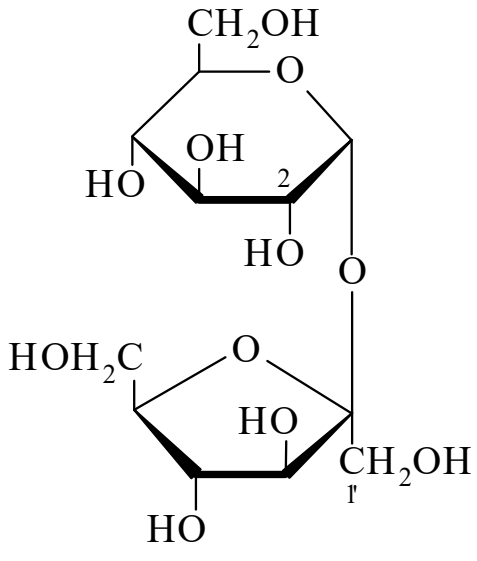
>>**Entry Name: Sucrose,** 9CI, 8CI
ENTRY UNDER REVIEW
Synonym(s): β-D-Fructofuranosyl α-D-glucopyranoside, 9CI. Saccharose. Cane sugar. Beet sugar



CAS Registry Number: 57-50-1
Related CAS Registry Numbers(s): 12738-64-6 31835-06-0 35867-41-5 54182-58-0 73264-44-5
Molecular Formula: $C_{12}H_{22}O_{11}$
Molecular Weight: 342.299
Accurate Mass: 342.116215
Percentage Composition: C 42.11%; H 6.48%; O 51.42%

Annual world production is in excess of 90 x 10^6 tons mainly from the juice of sugar cane and sugar beet which contain respectively *ca.* 20% and *ca.* 17% of the sugar
Use/Importance: Sweetening agent and food source assimilated by most organisms. Also used in food products as a preservative, antioxidant, moisture control agent, stabilizer and thickening agent. Reference material used in elemental microanalysis
Physical Description: Cryst. (H_2O or EtOH)
Melting Point: Mp 185-187°
Optical Rotation: $[\alpha]_D$ +66.5 (H_2O)
Calculated Log P Data: Log P –5.72 (uncertain value) (calc)
Other Data: Does not reduce Fehling's soln., form an osazone or mutarotate. Hydrol. with invertase or acid gives D-glucose and D-fructose
Hazard & Toxicity: OES long-term 10 mg m^{-3}; short-term 20 mg m^{-3}. LD_{50} (rat, orl) 29700 mg/kg. Exp. teratogen (very large doses)

Aldrich: 24761-8
Fluka: 84105
Sigma: S0389
Supelco: 4-7289

>>**Derivative:** 6'-Phosphate

CAS Registry Number: 4549-10-4
Extra CAS Registry Numbers(s): 22372-29-8 36064-19-4
Molecular Formula: $C_{12}H_{23}O_{14}P$
Molecular Weight: 422.279
Accurate Mass: 422.082547
Percentage Composition: C 34.13%; H 5.49%; O 53.04%; P 7.33%
Use/Importance: Biosynthetic intermed. to sucrose
Physical Description: Microcryst. powder (as di-K salt)
Optical Rotation: $[\alpha]_D^{20}$+34 (c, 1 in H_2O)
Other Data: Ba salt also prepared

>>**Derivative:** Octakis (hydrogen sulfate)